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Atkins, David

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 gatgccaaagg gcatggctag agacgtacat cgaactctcc acaccattgc ccaggaacag 2160
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 gaacgcgctt gagaagcata aatcttagtt gcagagatgt tgatttcaga agaaatgctt 2340
 tatatacttg aggtagcggg cattaatcct tttctctctc tctaaactgt taatcctgta 2400
 aaaaagggat tgctgtttgt gtttgctcgc aatcaattaa gttatattct ttggctctatg 2460
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gaacttctgt ttggaggaag agaaaaaaaa aaaaaaaa

2558

<210> 15
<211> 704
<212> PRT
<213> Eschscholzia californica
<400> 15

Met Glu Gln Thr Ala Val Lys Val Ser Leu Phe Asp Leu Phe Ser Ser
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Ile Leu Asn Gly Lys Leu Asp Pro Ser Asn Phe Ser Ser Asp Ser Ser
20 25 30
Ala Ala Ile Leu Ile Glu Asn Arg Glu Ile Leu Met Ile Leu Thr Thr
35 40 45
Ala Ile Ala Val Phe Ile Gly Cys Gly Phe Leu Tyr Val Trp Arg Arg
50 55 60
Ser Ser Asn Lys Ser Ser Lys Ile Val Glu Thr Gln Lys Leu Ile Val
65 70 75 80
Glu Lys Glu Pro Glu Pro Glu Val Asp Asp Gly Lys Lys Lys Val Thr
85 90 95
Ile Phe Phe Gly Thr Gln Thr Gly Thr Ala Glu Gly Phe Ala Lys Ala
100 105 110
Leu Ala Glu Glu Ala Lys Ala Arg Tyr Glu Lys Ala Ile Phe Lys Val
115 120 125
Ile Asp Leu Asp Asp Tyr Gly Ala Asp Asp Asp Glu Phe Glu Glu Lys
130 135 140
Leu Lys Lys Glu Thr Ile Ala Leu Phe Phe Leu Ala Thr Tyr Gly Asp
145 150 155 160
Gly Glu Pro Thr Asp Asn Ala Ala Arg Phe Tyr Lys Trp Phe Thr Glu
165 170 175
Gly Glu Arg Glu Met Trp Leu Gln Asn Leu Gln Phe Gly Val Phe Gly
180 185 190
Leu Gly Asn Arg Gln Tyr Glu His Phe Asn Lys Val Ala Lys Glu Val
195 200 205
Asp Glu Ile Leu Thr Glu Gln Gly Gly Lys Arg Ile Val Pro Val Gly
210 215 220
Leu Gly Asp Asp Asp Gln Cys Ile Glu Asp Asp Phe Thr Ala Trp Arg
225 230 235 240
Glu Leu Val Trp Pro Glu Leu Asp Gln Leu Leu Leu Asp Glu Ser Asp

545 550 555 560
 Pro Gly Thr Gly Leu Ala Pro Phe Arg Gly Phe Met Gln Glu Arg Leu
 565 570 575
 Ala Leu Lys Asn Ser Gly Val Glu Leu Gly Pro Ala Ile Leu Phe Phe
 580 585 590
 Gly Cys Arg Asn Arg Gln Met Asp Tyr Ile Tyr Glu Glu Glu Leu Asn
 595 600 605
 Asn Phe Val Lys Glu Gly Ala Ile Ser Glu Val Val Val Ala Phe Ser
 610 615 620
 Arg Glu Gly Ala Thr Lys Glu Tyr Val Gln His Lys Met Ala Glu Lys
 625 630 635 640
 Ala Ser Tyr Ile Trp Glu Met Ile Ser Gln Gly Ala Tyr Leu Tyr Val
 645 650 655
 Cys Gly Asp Ala Lys Gly Met Ala Arg Asp Val His Arg Thr Leu His
 660 665 670
 Thr Ile Ala Gln Glu Gln Gly Ser Leu Asp Asn Ser Lys Thr Glu Ser
 675 680 685
 Leu Val Lys Asn Leu Gln Met Asp Gly Arg Tyr Leu Arg Asp Val Trp
 690 695 700

<210> 16
 <211> 2100
 <212> DNA
 <213> Papaver somniferum
 <400> 16

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 tgtaggaat atcaatagga tcagaatata tttctgaccc aattttcatt atggtcacaa 120
 ctgtagcttc aatgctgatt ggatttggtt tcttcgcatg tatgaaatct tcgtcttctc 180
 aatcaaaacc tattgaaact tataaaccaa taattgataa agaagaagag gagattgaag 240
 ttgatcctgg taaaattaag ctactatat tttttggtac tcagactggg actgctgaag 300
 gatttgctaa ggcattggca gaagaaatta aggcaaagta caagaaagca gttgttaaag 360
 tagttgacct ggatgactat gcagccgagg atgatcaata tgaagagaaa ttaaagaaag 420
 agtctttggt gtttttcatg gtagccactt atggtgatgg tgagccaact gacaatgctg 480
 cgagatttta caaatgggtc actcaggaac atgaaagggg agagtggctt cagcaactaa 540
 cttatggtgt ttttggttg ggtaaccgtc aatacgagca tttcaacaag atcgcggtag 600
 atgtggatga gcaactcggg aaacaagggtg caaagcgcat tgttcaagtg gggctcgggtg 660

acgatgatca atgcattgaa gatgatttta ctgcttggeg agaattgttg tggactgaat 720
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 ctgttcctga atacagggtg gtgattcacg aaactacggg cgcggctctg gatgataaac 840
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 tctatgtgtg tggatgatgcc aagggaatgg ccagagatgt ccatcgcacg ttgcatacca 1980
 ttgcccaga acagggaccc atggaatcat ctgctgccga agctgcagta aagaaactcc 2040
 aagttgaaga acgatatcta agagatgtct ggtgatcgaa tgtagcttgc caatcactag 2100

<210> 17
 <211> 683
 <212> PRT
 <213> Papaver somniferum
 <400> 17

Met Gly Ser Asn Asn Leu Ala Asn Ser Ile Glu Ser Met Leu Gly Ile
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 Ser Ile Gly Ser Glu Tyr Ile Ser Asp Pro Ile Phe Ile Met Val Thr
 20 25 30
 Thr Val Ala Ser Met Leu Ile Gly Phe Gly Phe Phe Ala Cys Met Lys
 35 40 45
 Ser Ser Ser Ser Gln Ser Lys Pro Ile Glu Thr Tyr Lys Pro Ile Ile
 50 55 60
 Asp Lys Glu Glu Glu Glu Ile Glu Val Asp Pro Gly Lys Ile Lys Leu
 65 70 75 80
 Thr Ile Phe Phe Gly Thr Gln Thr Gly Thr Ala Glu Gly Phe Ala Lys
 85 90 95
 Ala Leu Ala Glu Glu Ile Lys Ala Lys Tyr Lys Lys Ala Val Val Lys
 100 105 110
 Val Val Asp Leu Asp Asp Tyr Ala Ala Glu Asp Asp Gln Tyr Glu Glu
 115 120 125
 Lys Leu Lys Lys Glu Ser Leu Val Phe Phe Met Val Ala Thr Tyr Gly
 130 135 140
 Asp Gly Glu Pro Thr Asp Asn Ala Ala Arg Phe Tyr Lys Trp Phe Thr
 145 150 155 160
 Gln Glu His Glu Arg Gly Glu Trp Leu Gln Gln Leu Thr Tyr Gly Val
 165 170 175
 Phe Gly Leu Gly Asn Arg Gln Tyr Glu His Phe Asn Lys Ile Ala Val
 180 185 190
 Asp Val Asp Glu Gln Leu Gly Lys Gln Gly Ala Lys Arg Ile Val Gln
 195 200 205
 Val Gly Leu Gly Asp Asp Asp Gln Cys Ile Glu Asp Asp Phe Thr Ala
 210 215 220
 Trp Arg Glu Leu Leu Trp Thr Glu Leu Asp Gln Leu Leu Lys Asp Glu
 225 230 235 240
 Asp Ala Ala Pro Ser Val Ala Thr Pro Tyr Ile Ala Thr Val Pro Glu
 245 250 255
 Tyr Arg Val Val Ile His Glu Thr Thr Val Ala Ala Leu Asp Asp Lys
 260 265 270
 His Ile Asn Thr Ala Asn Gly Asp Val Ala Phe Asp Ile Leu His Pro
 275 280 285
 Cys Arg Thr Ile Val Ala Gln Gln Arg Glu Leu His Lys Pro Lys Ser
 290 295 300

Asp	Arg	Ser	Cys	Ile	His	Leu	Glu	Phe	Asp	Ile	Ser	Gly	Ser	Ser	Leu	305	310	315	320
Thr	Tyr	Glu	Thr	Gly	Asp	His	Val	Gly	Val	Tyr	Ala	Glu	Asn	Cys	Asp	325	330	335	
Glu	Thr	Val	Glu	Glu	Ala	Gly	Lys	Leu	Leu	Gly	Gln	Pro	Leu	Asp	Leu	340	345	350	
Leu	Phe	Ser	Ile	His	Thr	Asp	Lys	Glu	Asp	Gly	Ser	Pro	Gln	Gly	Ser	355	360	365	
Ser	Leu	Pro	Pro	Pro	Phe	Pro	Gly	Pro	Cys	Thr	Leu	Arg	Ser	Ala	Leu	370	375	380	
Ala	Arg	Tyr	Ala	Asp	Leu	Leu	Asn	Pro	Pro	Arg	Lys	Ala	Ser	Leu	Ile	385	390	395	400
Ala	Leu	Ser	Ala	His	Ala	Ser	Val	Pro	Ser	Glu	Ala	Glu	Arg	Leu	Arg	405	410	415	
Phe	Leu	Ser	Ser	Pro	Leu	Gly	Lys	Asn	Glu	Tyr	Ser	Lys	Trp	Val	Val	420	425	430	
Gly	Ser	Gln	Arg	Ser	Leu	Leu	Glu	Ile	Met	Ala	Glu	Phe	Pro	Ser	Ala	435	440	445	
Lys	Pro	Pro	Leu	Gly	Val	Phe	Phe	Ala	Ala	Val	Ala	Pro	Arg	Leu	Pro	450	455	460	
Pro	Arg	Tyr	Tyr	Ser	Ile	Ser	Ser	Ser	Pro	Lys	Phe	Ala	Pro	Ser	Arg	465	470	475	480
Ile	His	Val	Thr	Cys	Ala	Leu	Val	Tyr	Gly	Gln	Ser	Pro	Thr	Gly	Arg	485	490	495	
Val	His	Arg	Gly	Val	Cys	Ser	Thr	Trp	Met	Lys	His	Ala	Val	Pro	Gln	500	505	510	
Asp	Ser	Trp	Ala	Pro	Ile	Phe	Val	Arg	Thr	Ser	Asn	Phe	Lys	Leu	Pro	515	520	525	
Ala	Asp	Pro	Ser	Thr	Pro	Ile	Ile	Met	Val	Gly	Pro	Gly	Thr	Gly	Leu	530	535	540	
Ala	Pro	Phe	Arg	Gly	Phe	Leu	Gln	Glu	Arg	Met	Ala	Leu	Lys	Glu	Asn	545	550	555	560
Gly	Ala	Gln	Leu	Gly	Pro	Ala	Val	Leu	Phe	Phe	Gly	Cys	Arg	Asn	Arg	565	570	575	
Asn	Met	Asp	Phe	Ile	Tyr	Glu	Asp	Glu	Leu	Asn	Asn	Phe	Val	Glu	Arg	580	585	590	
Gly	Val	Ile	Ser	Glu	Leu	Val	Ile	Ala	Phe	Ser	Arg	Glu	Gly	Glu	Lys	595	600	605	

Lys Glu Tyr Val Gln His Lys Met Met Glu Lys Ala Thr Asp Val Trp
610 615 620

Asn Val Ile Ser Gly Asp Gly Tyr Leu Tyr Val Cys Gly Asp Ala Lys
625 630 635 640

Gly Met Ala Arg Asp Val His Arg Thr Leu His Thr Ile Ala Gln Glu
645 650 655

Gln Gly Pro Met Glu Ser Ser Ala Ala Glu Ala Ala Val Lys Lys Leu
660 665 670

Gln Val Glu Glu Arg Tyr Leu Arg Asp Val Trp
675 680

<210> 18
<211> 2154
<212> DNA
<213> Eschscholzia californica
<400> 18

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tgctatcttg attgaaaatc gtgagatctt aatgatctta acaactgcta ttgctgcttt	180
tatcggttgt ggtttctctt acgtttggag aagatcttca aataagtcga gtaaaattgt	240
tgaaactcag aaattgatcg ttgaaaagga accagaacct gaagttgatg atggaaagaa	300
gaaggttact atcttctttg gtactcaaac tggtagagct gaaggattcg caaaggcact	360
tgctgaagaa gcaaaagcaa gatatgaaaa ggcaatcttt aaagtgattg atctggatga	420
ttacggagca gatgatgatg aattcgaaga gaaattgaaa aaggaaacta tagctctttt	480
ctttttggct acctatggag atggtgaacc tacagataat gctgcaagat tttataaatg	540
gttcacagag ggagagaggg aaatgtggct ccagaatctt caatttggtg tcttcggtct	600
aggcaataga cagtatgagc atttcaataa ggtggcaaag gaggtggacg agatactcac	660
tgaacagggg ggggaagcgta ttgttcccgt ggggtctagga gatgatgatc aatgcataga	720
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tgaaagtgat aaaacatctg tttctactcc ttacactgcc atcgtaggag aatacagggg	840
agtattccat gatgctactg atgcatcact acaagacaaa aactggagca atgcaaattg	900
ctacactgtt tacgacgttc aacacccatg cagagccaat gtcgttgtaa agaaggagct	960
tcacactcca gtatctgatc gttcttgtat tcactctgaa tttgacattt ctggcactgg	1020
gctcacgtat gaaacaggag accatgtcgg tgtttactct gagaattgtg ttgaagttgt	1080

cgaggaagca gagaggctat tgggttactc atcagacacc gttttttcaa tccatgtcga 1140
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 agtaccaatt ataatgattg gtctctgggac tggattagct ccctttaggg gattcatgca 1740
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 cattgcccag gaacagggat ctttggacaa ctcgaagacc gaaagcttgg tgaagaatct 2100
 acagatggat ggaaggtatc tacgtgatgt gtggtgattg gggctagagc ggcc 2154

<210> 19
 <211> 704
 <212> PRT
 <213> Eschscholzia californica
 <400> 19

Met	Glu	Gln	Thr	Ala	Val	Lys	Val	Ser	Leu	Phe	Asp	Leu	Phe	Ser	Ser
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Ile	Leu	Asn	Gly	Lys	Leu	Asp	Pro	Ser	Asn	Phe	Ser	Ser	Asp	Ser	Ser
		20						25					30		
Ala	Ala	Ile	Leu	Ile	Glu	Asn	Arg	Glu	Ile	Leu	Met	Ile	Leu	Thr	Thr
		35					40				45				
Ala	Ile	Ala	Val	Phe	Ile	Gly	Cys	Gly	Phe	Leu	Tyr	Val	Trp	Arg	Arg
	50					55					60				

Ser	Ser	Asn	Lys	Ser	Ser	Lys	Ile	Val	Glu	Thr	Gln	Lys	Leu	Ile	Val	65	70	75	80
Glu	Lys	Glu	Pro	Glu	Pro	Glu	Val	Asp	Asp	Gly	Lys	Lys	Lys	Val	Thr	85	90	95	
Ile	Phe	Phe	Gly	Thr	Gln	Thr	Gly	Thr	Ala	Glu	Gly	Phe	Ala	Lys	Ala	100	105	110	
Leu	Ala	Glu	Glu	Ala	Lys	Ala	Arg	Tyr	Glu	Lys	Ala	Ile	Phe	Lys	Val	115	120	125	
Ile	Asp	Leu	Asp	Asp	Tyr	Gly	Ala	Asp	Asp	Asp	Glu	Phe	Glu	Glu	Lys	130	135	140	
Leu	Lys	Lys	Glu	Thr	Ile	Ala	Leu	Phe	Phe	Leu	Ala	Thr	Tyr	Gly	Asp	145	150	155	160
Gly	Glu	Pro	Thr	Asp	Asn	Ala	Ala	Arg	Phe	Tyr	Lys	Trp	Phe	Thr	Glu	165	170	175	
Gly	Glu	Arg	Glu	Met	Trp	Leu	Gln	Asn	Leu	Gln	Phe	Gly	Val	Phe	Gly	180	185	190	
Leu	Gly	Asn	Arg	Gln	Tyr	Glu	His	Phe	Asn	Lys	Val	Ala	Lys	Glu	Val	195	200	205	
Asp	Glu	Ile	Leu	Thr	Glu	Gln	Gly	Gly	Lys	Arg	Ile	Val	Pro	Val	Gly	210	215	220	
Leu	Gly	Asp	Asp	Asp	Gln	Cys	Ile	Glu	Asp	Asp	Phe	Thr	Ala	Trp	Arg	225	230	235	240
Glu	Leu	Val	Trp	Pro	Glu	Leu	Asp	Gln	Leu	Leu	Leu	Asp	Glu	Ser	Asp	245	250	255	
Lys	Thr	Ser	Val	Ser	Thr	Pro	Tyr	Thr	Ala	Ile	Val	Pro	Glu	Tyr	Arg	260	265	270	
Val	Val	Phe	His	Asp	Ala	Thr	Asp	Ala	Ser	Leu	Gln	Asp	Lys	Asn	Trp	275	280	285	
Ser	Asn	Ala	Asn	Gly	Tyr	Thr	Val	Tyr	Asp	Val	Gln	His	Pro	Cys	Arg	290	295	300	
Ala	Asn	Val	Val	Val	Lys	Lys	Glu	Leu	His	Thr	Pro	Val	Ser	Asp	Arg	305	310	315	320
Ser	Cys	Ile	His	Leu	Glu	Phe	Asp	Ile	Ser	Gly	Thr	Gly	Leu	Thr	Tyr	325	330	335	
Glu	Thr	Gly	Asp	His	Val	Gly	Val	Tyr	Ser	Glu	Asn	Cys	Val	Glu	Val	340	345	350	
Val	Glu	Glu	Ala	Glu	Arg	Leu	Leu	Gly	Tyr	Ser	Ser	Asp	Thr	Val	Phe	355	360	365	

Ser Ile His Val Asp Lys Glu Asp Gly Ser Pro Ile Ser Gly Ser Ala
 370 375 380
 Leu Ala Pro Pro Phe Pro Thr Pro Cys Thr Leu Arg Thr Ala Leu Thr
 385 390 395 400
 Arg Tyr Ala Asp Leu Leu Asn Ser Pro Lys Lys Ala Ala Leu His Ala
 405 410 415
 Leu Ala Ala Tyr Ala Ser Asp Pro Lys Glu Ala Glu Arg Leu Arg Tyr
 420 425 430
 Leu Ala Ser Pro Ala Gly Lys Asp Glu Tyr Ala Gln Trp Ile Val Ala
 435 440 445
 Ser Gln Arg Ser Leu Leu Val Val Met Ala Glu Phe Pro Ser Ala Lys
 450 455 460
 Ala Pro Ile Gly Val Phe Phe Ala Ala Val Ala Pro Arg Leu Leu Pro
 465 470 475 480
 Arg Tyr Tyr Ser Ile Ser Ser Ser Asn Arg Met Val Pro Ser Arg Ile
 485 490 495
 His Val Thr Cys Ala Leu Val His Glu Lys Thr Pro Ala Gly Arg Val
 500 505 510
 His Lys Gly Val Cys Ser Thr Trp Met Lys Asn Ser Val Ser Leu Glu
 515 520 525
 Glu Asn His Asp Cys Ser Ser Trp Ala Pro Ile Phe Val Arg Gln Ser
 530 535 540
 Asn Phe Lys Leu Pro Ala Asp Ser Thr Val Pro Ile Ile Met Ile Gly
 545 550 555 560
 Pro Gly Thr Gly Leu Ala Pro Phe Arg Gly Phe Met Gln Glu Arg Leu
 565 570 575
 Ala Leu Lys Asn Ser Gly Val Glu Leu Gly Pro Ala Ile Leu Phe Phe
 580 585 590
 Gly Cys Arg Asn Arg Gln Met Asp Tyr Ile Tyr Glu Glu Glu Leu Asn
 595 600 605
 Asn Phe Val Lys Glu Gly Ala Ile Ser Glu Val Val Val Ala Phe Ser
 610 615 620
 Arg Glu Gly Ala Thr Lys Glu Tyr Val Gln His Lys Met Ala Glu Lys
 625 630 635 640
 Ala Ser Tyr Ile Trp Glu Met Ile Ser Gln Gly Ala Tyr Leu Tyr Val
 645 650 655
 Cys Gly Asp Ala Lys Gly Met Ala Arg Asp Val His Arg Thr Leu His
 660 665 670

Thr Ile Ala Gln Glu Gln Gly Ser Leu Asp Asn Ser Lys Thr Glu Ser
675 680 685

Leu Val Lys Asn Leu Gln Met Asp Gly Arg Tyr Leu Arg Asp Val Trp
690 695 700

<210> 20
<211> 149
<212> PRT
<213> Arabidopsis thaliana

<400> 20

Gly Ser Pro Leu Glu Ser Ala Val Pro Pro Pro Phe Pro Gly Pro Cys
1 5 10 15

Thr Leu Gly Thr Gly Leu Ala Arg Tyr Ala Asp Leu Leu Asn Pro Pro
20 25 30

Arg Lys Ser Ala Leu Val Ala Leu Ala Ala Tyr Ala Thr Glu Pro Ser
35 40 45

Glu Ala Glu Lys Leu Lys His Leu Thr Ser Pro Asp Gly Lys Asp Glu
50 55 60

Tyr Ser Gln Trp Ile Val Ala Ser Gln Arg Ser Leu Leu Glu Val Met
65 70 75 80

Ala Ala Phe Pro Ser Ala Lys Pro Pro Leu Gly Val Phe Phe Ala Ala
85 90 95

Ile Ala Pro Arg Leu Gln Pro Arg Tyr Tyr Ser Ile Ser Ser Cys Gln
100 105 110

Asp Trp Ala Pro Ser Arg Val His Val Thr Ser Ala Leu Val Tyr Gly
115 120 125

Pro Thr Pro Thr Gly Arg Ile His Lys Gly Val Cys Ser Thr Trp Met
130 135 140

Lys Asn Ala Val Pro
145

<210> 21
<211> 149
<212> PRT

<213> Catharanthus roseus

<400> 21

Gly Thr Pro Leu Ala Gly Ser Ser Leu Pro Pro Pro Phe Pro Pro Cys
1 5 10 15

Thr Leu Arg Thr Ala Leu Thr Arg Trp Ala Asp Leu Leu Asn Thr Pro
20 25 30

Lys Lys Ser Ala Leu Leu Ala Leu Ala Ala Tyr Ala Ser Asp Pro Asn
35 40 45

Glu Ala Asp Arg Leu Lys Tyr Leu Ala Ser Pro Ala Gly Lys Asp Glu
50 55 60

Tyr Ala Gln Ser Leu Val Ala Asn Gln Arg Ser Leu Leu Glu Val Met
65 70 75 80

Ala Glu Phe Pro Ser Ala Lys Pro Pro Leu Gly Val Phe Phe Ala Ala
85 90 95

Ile Ala Pro Arg Leu Gln Pro Arg Phe Tyr Ser Ile Ser Ser Ser Pro
100 105 110

Arg Met Ala Pro Ser Arg Ile His Val Thr Cys Ala Leu Val Tyr Glu
115 120 125

Lys Thr Pro Gly Gly Arg Ile His Lys Gly Val Cys Ser Thr Trp Met
130 135 140

Lys Asn Ala Ile Pro
145

<210> 22

<211> 149

<212> PRT

<213> Helianthus tuberosus

<400> 22

Gly Thr Pro Leu Gly Gly Pro Thr Leu Gln Pro Pro Phe Pro Pro Cys
1 5 10 15

Thr Leu Arg Lys Ala Leu Thr Asn Tyr Ala Asp Leu Leu Ser Ser Pro
20 25 30

Lys Lys Ser Thr Leu Leu Ala Leu Ala Ala His Ala Ser Asp Ala Thr
35 40 45

Glu Ala Asp Arg Leu Gln Phe Leu Ala Ser Arg Glu Gly Lys Asp Glu
50 55 60

Tyr Ala Glu Trp Ile Val Ala Asn Gln Arg Ser Leu Leu Glu Val Met
65 70 75 80

Glu Ala Phe Pro Ser Ala Lys Pro Pro Leu Gly Val Phe Phe Ala Ala
85 90 95

Ile Ala Pro Arg Leu Gln Pro Arg Tyr Tyr Ser Ile Ser Ser Ser Pro
100 105 110

Lys Met Val Pro Asn Arg Ile His Val Thr Cys Ala Leu Val Tyr Glu
115 120 125

Lys Thr Pro Gly Gly Arg Ile His Lys Gly Ile Cys Ser Thr Trp Met
130 135 140

Lys Asn Ala Val Pro
145

<210> 23
<211> 149
<212> PRT
<213> Vigna radiata

<400> 23

Gly Thr Pro Leu Gly Gly Pro Thr Leu Gln Pro Pro Phe Pro Pro Cys
1 5 10 15

Thr Leu Arg Lys Ala Leu Thr Asn Tyr Ala Asp Leu Leu Ser Ser Pro
20 25 30

Lys Lys Ser Thr Leu Leu Ala Leu Ala Ala His Ala Ser Asp Ala Thr
35 40 45

Glu Ala Asp Arg Leu Gln Phe Leu Ala Ser Arg Glu Gly Lys Asp Glu
50 55 60

Tyr Ala Glu Trp Ile Val Ala Asn Gln Arg Ser Leu Leu Glu Val Met
65 70 75 80

Glu Ala Phe Pro Ser Ala Lys Pro Pro Leu Gly Val Phe Phe Ala Ala
85 90 95

Ile Ala Pro Arg Leu Gln Pro Arg Tyr Tyr Ser Ile Ser Ser Ser Pro
100 105 110

Lys Met Val Pro Asn Arg Ile His Val Thr Cys Ala Leu Val Tyr Glu
115 120 125

Lys Thr Pro Gly Gly Arg Ile His Lys Gly Ile Cys Ser Thr Trp Met
130 135 140

Lys Asn Ala Val Pro
145

<210> 24
<211> 149
<212> PRT
<213> Vicia sativa

<400> 24

Gly Thr Ser Leu Gly Gly Ser Leu Leu Pro Pro Phe Pro Gly Pro Cys
1 5 10 15

Thr Val Arg Thr Ala Leu Ala Cys Tyr Ala Asp Leu Leu Asn Pro Pro
20 25 30

Arg Lys Ala Ala Ile Val Ala Leu Ala Ala His Ala Ser Glu Pro Ser
35 40 45

Glu Ala Glu Arg Leu Lys Phe Leu Ser Ser Pro Gln Gly Lys Asp Glu
50 55 60

Tyr Ser Lys Trp Val Val Gly Ser Gln Arg Ser Leu Leu Glu Val Met
65 70 75 80

Ala Asp Phe Pro Ser Ala Lys Pro Pro Leu Gly Val Phe Phe Ala Ala
85 90 95

Ile Ala Pro Arg Leu Gln Pro Arg Tyr Tyr Ser Ile Ser Ser Ser Pro
100 105 110

Arg Pro Ala Pro Gln Arg Val His Val Thr Cys Ala Leu Val Glu Gly
115 120 125

Pro Thr Pro Thr Gly Arg Ile His Lys Gly Val Cys Ser Thr Trp Met
130 135 140

Lys Ser Ala Thr Pro
145

<210> 25
<211> 706
<212> PRT
<213> Eschschozia californica

<400> 25

Met Glu Gln Thr Ala Val Lys Val Ser Leu Phe Asp Leu Phe Ser Ser
1 5 10 15

Ile Leu Asn Gly Lys Leu Asp Pro Ser Asn Phe Ser Ser Asp Ser Ser
20 25 30

Ala Ala Ile Leu Ile Glu Asn Arg Glu Ile Leu Met Ile Leu Thr Thr
35 40 45

Ala Ile Ala Val Phe Ile Gly Cys Gly Phe Leu Tyr Val Trp Arg Arg
50 55 60

Ser Ser Asn Lys Ser Ser Lys Ile Val Glu Thr Gln Lys Leu Ile Val
65 70 75 80

Glu Lys Glu Pro Glu Pro Glu Val Asp Asp Gly Lys Lys Lys Val Thr
85 90 95

Ile Phe Phe Gly Thr Gln Thr Gly Thr Ala Glu Gly Phe Ala Lys Ala
100 105 110

Leu Ala Glu Glu Ala Lys Ala Arg Tyr Glu Lys Ala Ile Phe Lys Val
115 120 125

Ile Asp Leu Asp Asp Tyr Gly Ala Val Asp Asp Glu Phe Glu Glu Lys
130 135 140

Leu Lys Lys Glu Thr Ile Ala Leu Phe Phe Leu Ala Thr Tyr Gly Asp
 145 150 155 160

Gly Glu Pro Thr Asp Asn Ala Ala Arg Phe Tyr Lys Trp Phe Thr Glu
 165 170 175

Gly Lys Glu Arg Glu Met Trp Leu Gln Asn Leu Gln Phe Gly Val Phe
 180 185 190

Gly Leu Gly Asn Arg Gln Tyr Glu His Phe Asn Lys Val Ala Lys Glu
 195 200 205

Val Asp Glu Ile Leu Thr Glu Gln Gly Gly Lys Arg Ile Val Pro Val
 210 215 220

Gly Leu Gly Asp Asp Asp Gln Cys Ile Glu Asp Asp Phe Thr Ala Trp
 225 230 235 240

Arg Glu Leu Val Trp Pro Glu Leu Asp Gln Leu Leu Leu Asp Glu Ser
 245 250 255

Asp Lys Gln Ser Val Ser Thr Pro Tyr Thr Ala Ile Val Pro Glu Tyr
 260 265 270

Arg Val Val Phe His Asp Ala Thr Asp Ala Ser Leu Gln Asp Lys Asn
 275 280 285

Trp Ser Asn Ala Asn Gly Tyr Thr Val Tyr Asp Val Gln His Pro Cys
 290 295 300

Arg Ala Asn Val Val Val Lys Lys Glu Leu His Thr Pro Val Ser Asp
 305 310 315 320

Arg Ser Cys Ile His Leu Glu Phe Asp Ile Ser Gly Thr Gly Leu Thr
 325 330 335

Tyr Glu Thr Gly Asp His Val Gly Val Tyr Ser Glu Asn Cys Val Glu
 340 345 350

Val Val Glu Glu Ala Glu Arg Leu Leu Gly Tyr Ser Ser Asp Thr Val
 355 360 365

Phe Ser Ile His Val Asp Lys Glu Asp Gly Ser Pro Ile Ser Gly Ser

370

375

380

Ala Leu Ala Pro Pro Phe Pro Thr Pro Cys Thr Leu Arg Thr Ala Leu
385 390 395 400

Thr Arg Tyr Ala Asp Leu Leu Asn Ser Pro Lys Lys Ala Ala Leu His
405 410 415

Ala Leu Ala Ala Tyr Ala Ser Asp Pro Lys Glu Ala Glu Arg Leu Arg
420 425 430

Tyr Leu Ala Ser Pro Ala Gly Lys Asp Glu Tyr Ala Gln Trp Ile Val
435 440 445

Ala Ser Gln Arg Ser Leu Leu Val Val Met Ala Glu Phe Pro Ser Ala
450 455 460

Lys Ala Pro Ile Gly Val Phe Phe Ala Ala Val Ala Pro Arg Leu Leu
465 470 475 480

Pro Arg Tyr Tyr Ser Ile Ser Ser Ser Asn Arg Met Val Pro Ser Arg
485 490 495

Ile His Val Thr Cys Ala Leu Val His Glu Lys Thr Pro Ala Gly Arg
500 505 510

Val His Lys Gly Val Val Cys Ser Thr Trp Met Lys Asn Ser Val Ser
515 520 525

Leu Glu Glu Asn His Asp Cys Ser Ser Trp Ala Pro Ile Phe Val Arg
530 535 540

Gln Ser Asn Phe Lys Leu Pro Ala Asp Ser Thr Val Pro Ile Ile Met
545 550 555 560

Ile Gly Pro Gly Thr Gly Leu Ala Pro Phe Arg Gly Phe Met Gln Glu
565 570 575

Arg Leu Ala Leu Lys Asn Ser Gly Val Glu Leu Gly Pro Ala Ile Leu
580 585 590

Phe Phe Gly Cys Arg Asn Arg Gln Met Asp Tyr Ile Tyr Glu Glu Glu
595 600 605

Leu Asn Asn Phe Val Lys Glu Gly Ala Ile Ser Glu Val Val Val Ala
610 615 620

Phe Ser Arg Glu Gly Ala Thr Lys Glu Tyr Val Gln His Lys Met Ala
625 630 635 640

Glu Lys Ala Ser Tyr Ile Trp Glu Met Ile Ser Gln Gly Ala Tyr Leu
645 650 655

Tyr Val Cys Gly Asp Ala Lys Gly Met Ala Arg Asp Val His Arg Thr
660 665 670

Leu His Thr Ile Ala Gln Glu Gln Gly Ser Leu Asp Asn Ser Lys Thr
675 680 685

Glu Ser Leu Val Lys Asn Leu Gln Met Asp Gly Arg Tyr Leu Arg Asp
690 695 700

Val Trp
705

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<211> 682
<212> PRT
<213> Papaver somniferum

<400> 26

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Ser Ile Gly Ser Glu Tyr Ile Ser Asp Pro Ile Phe Ile Met Val Thr
20 25 30

Thr Val Ala Ser Met Leu Ile Gly Phe Gly Phe Phe Val Cys Met Lys
35 40 45

Ser Ser Ser Ser Gln Ser Lys Pro Ile Glu Thr Tyr Lys Pro Ile Ile
50 55 60

Asp Lys Glu Glu Glu Glu Ile Glu Val Asp Pro Gly Lys Ile Lys Leu
65 70 75 80

Thr Ile Phe Phe Gly Thr Gln Thr Gly Thr Ala Glu Gly Phe Ala Lys
 85 90 95

Ala Leu Ala Glu Glu Ile Lys Ala Lys Tyr Lys Lys Ala Val Val Lys
 100 105 110

Val Val Asp Leu Asp Asp Tyr Ala Ala Glu Asp Asp Gln Tyr Glu Glu
 115 120 125

Lys Leu Lys Lys Glu Ser Leu Val Phe Phe Met Val Ala Thr Tyr Gly
 130 135 140

Asp Gly Glu Pro Thr Asp Asn Ala Ala Arg Phe Tyr Lys Trp Phe Thr
 145 150 155 160

Gln Glu His Glu Arg Gly Glu Trp Leu Gln Gln Leu Thr Tyr Gly Val
 165 170 175

Phe Gly Leu Gly Asn Arg Gln Tyr Glu His Phe Asn Lys Ile Ala Val
 180 185 190

Asp Val Asp Glu Gln Leu Gly Lys Gln Gly Ala Lys Arg Ile Val Gln
 195 200 205

Val Gly Leu Gly Asp Asp Asp Gln Cys Ile Glu Asp Asp Phe Thr Ala
 210 215 220

Trp Arg Glu Leu Leu Trp Thr Glu Leu Asp Gln Leu Leu Lys Asp Glu
 225 230 235 240

Asp Ala Ala Pro Ser Val Ala Thr Pro Tyr Ala Ile Thr Val Pro Glu
 245 250 255

Tyr Arg Val Val Ile His Glu Thr Thr Val Ala Ala Leu Asp Asp Lys
 260 265 270

His Ile Asn Thr Ala Asn Gly Asp Val Ala Phe Asp Ile Leu His Pro
 275 280 285

Cys Arg Thr Ile Val Ala Gln Gln Arg Glu Leu His Lys Pro Lys Ser
 290 295 300

Asp Arg Asp Cys Ile His Leu Glu Phe Asp Ile Ser Gly Ser Ser Leu

305		310		315		320
Thr Tyr Glu Thr Gly Asp His Val Gly Val Tyr Ala Glu Asn Cys Asp						
		325		330		335
Glu Thr Val Glu Glu Ala Gly Lys Leu Leu Gly Gln Pro Leu Asp Leu						
		340		345		350
Leu Phe Ser Ile His Thr Asp Lys Glu Asp Gly Ser Pro Gln Gly Ser						
		355		360		365
Ser Leu Pro Pro Phe Pro Gly Pro Cys Thr Leu Arg Ser Ala Leu Ala						
		370		375		380
Arg Tyr Ala Asp Leu Leu Asn Pro Pro Arg Lys Ala Ser Leu Ile Ala						
		385		390		395
Leu Ser Ala His Ala Ser Val Pro Ser Glu Ala Glu Arg Leu Arg Phe						
		405		410		415
Leu Ser Ser Pro Leu Gly Lys Asn Glu Tyr Ser Lys Trp Val Val Gly						
		420		425		430
Ser Gln Arg Ser Leu Leu Glu Ile Met Ala Glu Phe Pro Ser Ala Lys						
		435		440		445
Pro Pro Leu Gly Val Phe Phe Ala Ala Val Ala Pro Arg Leu Pro Pro						
		450		455		460
Arg Tyr Tyr Ser Ile Ser Ser Ser Pro Lys Phe Ala Pro Ser Arg Ile						
		465		470		475
His Val Thr Cys Ala Leu Val Tyr Gly Gln Ser Pro Thr Gly Arg Phe						
		485		490		495
His Arg Gly Val Cys Ser Thr Trp Met Lys His Ala Val Pro Gln Asp						
		500		505		510
Ser Trp Ala Pro Ile Phe Val Arg Thr Ser Asn Phe Lys Leu Pro Ala						
		515		520		525
Asp Pro Ser Thr Pro Ile Ile Met Val Gly Pro Gly Thr Gly Leu Ala						
		530		535		540

Pro Phe Arg Gly Phe Leu Gln Glu Arg Met Ala Leu Lys Glu Asn Gly
545 550 555 560

Ala Gln Leu Gly Pro Ala Val Leu Phe Phe Gly Cys Arg Asn Arg Asn
565 570 575

Met Asp Phe Ile Tyr Glu Asp Glu Leu Asn Asn Phe Val Glu Arg Gly
580 585 590

Val Ile Ser Glu Leu Val Ile Ala Phe Ser Arg Glu Gly Glu Lys Lys
595 600 605

Glu Tyr Val Gln His Lys Met Met Glu Lys Ala Pro Asp Val Trp Asn
610 615 620

Val Ile Ser Gly Asp Gly Tyr Leu Tyr Val Cys Gly Asp Ala Lys Gly
625 630 635 640

Met Ala Arg Asp Val His Arg Thr Leu His Thr Ile Ala Gln Glu Gln
645 650 655

Gly Ser Met Glu Ser Ser Ala Ala Glu Ala Ala Val Lys Lys Leu Gln
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Val Glu Glu Arg Tyr Leu Arg Asp Val Trp
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<223> n = Inosine

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<223> n = Inosine

<400> 27
cantncnncc tcctttccc

19

<210> 28
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<400> 28
ctntncnncc tcctttccc

19

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<400> 29
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acctacttct cacgntgcgg

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<210> 31
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<223> n = Inosine

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<223> n = Inosine

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<222> (15)..(15)
<223> n = Inosine

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<223> n = Inosine

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<223> n = Inosine

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<223> n = Inosine

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<400> 31
aaacgncgnt ancgnnggns nngngttgg

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<210> 32
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aagcgncgnt ancgnngnsc nngngtcgg

29